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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/016,187	12/12/2001	David John McComas	090936.0432	4235
31625	7590	03/17/2004	EXAMINER	
BAKER BOTTS L.L.P. PATENT DEPARTMENT 98 SAN JACINTO BLVD., SUITE 1500 AUSTIN, TX 78701-4039			FERNANDEZ, KALIMAH	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 03/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/016,187	Applicant(s) MCCOMAS, DAVID JOHN	
	Examiner Kalimah Fernandez	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-21 is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2-19-04, with respect to claims 1-21 have been fully considered and are persuasive. The final rejection of claims 1-21 has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of US Pat No. 4,864,228 issued to Richardson.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 4,864,228 issued to Richardson.

4. Richardson discloses a particle detection unit for detecting secondary electrons (120).

5. Richardson discloses a suppression grid (122) placed in the electron flight path in front of the detector (120) (see fig. 7).
6. Richardson discloses the suppression grid (122) being made from a conductive material such that it may receive an applied voltage (col.14, line 65- col.15, line 21).
7. Richardson discloses the suppression grid (122) operable to actively repel a portion of the electrons such that they do not reach the detector (120) through the grid (122) with the portion of repelled electrons being determined by the amount of applied voltage (col.15, lines 27-49).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,026,988 issued to Mendenhall et al and in view of US Pat No 4,864,228 issued to Richardson.

10. In regards to claims 1 and 7, Mendenhall et al teach a particle detection unit (50) having a detector (12) for detecting electrons (col.2, lines 32-40).

11. Mendenhall et al does not explicitly teach a suppression grid operable to actively repel a portion of the electrons such that they do not reach the detector through the grid.

12. However, Richardson teaches the desirability of the use of a suppression grid (122) placed in the electron flight path in front of the detector (120) (see fig. 7), wherein the suppression grid (122) operable to actively repel a portion of the electrons such that they do not reach the detector (120) through the grid (122) with the portion of repelled electrons being determined by the amount of applied voltage (col.15, lines 27-49).

13. It would have been obvious to an ordinary artisan at the time this invention was made to incorporate the teachings of Richardson into Mendenhall et al since Richardson teaches the ability to accurately discriminate between secondary electron from a specimen and backscattered electrons (see col.15, lines 27-39; see also col. 4, lines 19-43 for a fully explanation).

14. The obvious motivation for such an incorporation flows from Mendenhall et al, which discloses the desirability to use his apparatus for separate, independent investigations of particles from the specimen and backscattered particles (i.e. ejected recoil particles) (see col.5, line 66-col.6, line 4). Wherein, the incorporation of Richardson would enable accurate investigations of particles from the specimen or backscattered electrons.

15. As per claim 3, Mendenhall et al teach a microchannel plate detector (12) (col.4, lines 59-60).

16. As per claims 5-6, Mendenhall et al teach a secondary electron emission foil for scattering electrons to be received at the suppression grid (col.4, lines 53-54;col.5, lines 3-8).

17. As per claim 8, Richardson teaches the setting of the applied voltage to receive a known percentage of electrons (col.14, lines 37-40).

18. As per claim 9, Richardson teaches the step of periodically scanning a range of voltages applied to suppression grid (col.15, lines 45-49), wherein the filter electrode potential is varied and as a consequence the suppression grid voltage must be periodically varied (see col.16, lines 9-34).

19. As per claim 10, Richardson teaches the storing data representing a count of electrons as a function of voltage applied (see fig. 13).

20. As per claim 11, Mendenhall et al teach collection of data with respect to energy to carry out time-of flight measurements (col.5, lines 40-61).

21. As per claim 12, Mendenhall et al teach the stored data as counts as a function of species (i.e scattered particles or backscattered electron) (col.5, line 66-col.6, line 4).

22. As per claims 13-14, Mendenhall et al teach a second detector (13).

Allowable Subject Matter

23. Claims 15-21 are allowed. The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach or obviously suggest the claimed invention.

24. Specifically, neither Mendenhall et al or Richardson teach or obviously suggest the use of "a start detector for counting electrons generated from the foil; a stop detector for counting particles transmitted through the foil" as in claim 15.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat No 5,621,209 issued to Purser is considered relevant since he teaches the use of carbon foil and elimination of unwanted particles (see col.5, lines 11-26). In addition, US Pat No 5,757,012 issued to Turner et al is considered relevant since he teaches the state of the art to suppress stray ions (see col.1, lines 36-46).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalimah Fernandez whose telephone number is 571-272-2420. The examiner can normally be reached on Mon-Tues 6:30-3:30; Wed-Thurs 8-5 and Fri.9am-6 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800